

WHAT IS CLAIMED IS:

1. A method for reliably transmitting data in a packet network, the method comprising:
 - receiving a plurality of data packets at an encoder;
 - 5 generating error correction information corresponding to the plurality of data packets;
 - providing a plurality of error correction packets including the error correction information;
 - transmitting the plurality of data packets and the plurality of error correction
 - 10 packets to a decoder, wherein the decoder uses error correction information to reconstruct one or more data packets if one or more data packets are not received at the decoder.
2. The method of claim 1, wherein the plurality of data packets are transmitted before the error correction information is generated.
- 15 3. The method of claim 2, wherein data packets are copied into a buffer and transmitted as they are received.
4. The method of claim 1, wherein the decoder is associated with a network node.
5. The method of claim 1, wherein the decoder is associated with a
- 20 network end-point.
6. The method of claim 1, wherein the encoder is associated with a network node.
7. The method of claim 1, wherein the encoder is associated with a network end-point.
- 25 8. The method of claim 1, wherein the decoder and the encoder are edge switches.
9. The method of claim 1, wherein Reed-Soloman encoding is used to generate error correction information.
10. The method of claim 1, further comprising establishing a tunnel
- 30 between the encoder and the decoder.
11. The method of claim 10, further comprising encapsulating the plurality of data packets and the plurality of error correction packets with a tunnel header.

12. The method of claim 11, wherein the tunnel header is GRE encapsulated.
13. The method of claim 11, wherein the plurality of data packets and the plurality of error correction packets form a data block.
- 5 14. The method of claim 13, wherein the data block is associated with a session.
15. The method of claim 1, wherein the encoder provides reliability at the network layer.
16. The method of claim 1, wherein the network is a unicast network.
- 10 17. The method of claim 1, wherein the network is a multicast network.
18. A method for receiving data in a network, the method comprising:
receiving a plurality of data packets at a decoder network node, the plurality of data packets associated with a block identifier;
receiving a plurality of error correction packets including error correction
15 information corresponding to the block identifier;
reconstructing one or more of the data packets using error correction information if one or more of the data packets has not been received within a set time period.
19. The method of claim 18, further comprising removing tunnel header
20 information from the plurality of data packets;
20. The method of claim 18, further comprising forwarding the plurality of data packets to a network end-point.
21. The method of claim 18, wherein the error correction information is Reed-Solomon encoded.
- 25 22. The method of claim 18, further comprising setting a timer upon receiving the first of a plurality of data packets associated with the block identifier.
23. An apparatus for reliably transmitting data, the apparatus comprising:
an interface configured to receive a plurality of data packets;
a processor configured to generate error correction information corresponding
30 to the plurality of data packets and provide a plurality of error correction packets including the error correction information;
wherein the interface is further configured to transmit the plurality of data packets and the plurality of error correction packets to a decoder, wherein the decoder

uses error correction information to reconstruct one or more data packets if one or more data packets are not received at the decoder.

24. The apparatus of claim 23, wherein the plurality of data packets are transmitted before the error correction information is generated.

5 25. The apparatus of claim 24, wherein data packets are copied into a buffer and transmitted as they are received.

26. An apparatus for reliably transmitting data in a packet network, the apparatus comprising:

means for receiving a plurality of data packets at an encoder;

10 means for generating error correction information corresponding to the plurality of data packets;

means for providing a plurality of error correction packets including the error correction information;

15 means for transmitting the plurality of data packets and the plurality of error correction packets to a decoder, wherein the decoder uses error correction information to reconstruct one or more data packets if one or more data packets are not received at the decoder.

27. The apparatus of claim 26, wherein the plurality of data packets are transmitted before the error correction information is generated.

20 28. The apparatus of claim 27, wherein data packets are copied into a buffer and transmitted as they are received.